

**Yr6: These are challenges. You will need to use what you know to work them out. Don't give up – be logical and give yourself time.**

### Challenge 1

Can you work out the values of each shape?

$$\star + \star = 20$$

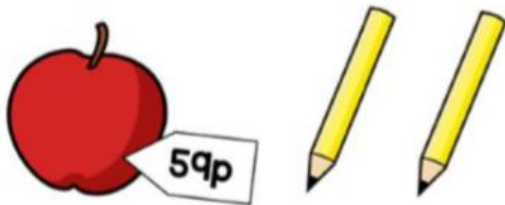
$$\heartsuit - \star = 7$$

$$\heartsuit - \heartsuit = \blacktriangle$$

### Challenge 2

Tom has six 10p coins and three 5p coins. He buys an apple for 59p and two pencils.

He has no money left. How much does a pencil cost?



### Challenge 3

Here are some digit cards.



Amir and Donna each make a three-digit number using all the cards.

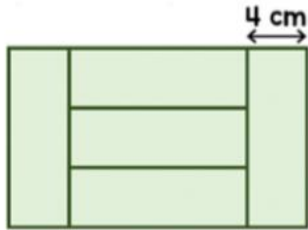
Amir notices that when he subtracts his number from Donna's number he gets an answer greater than 300 but less than 400.

What numbers did they make?

## Challenge 4

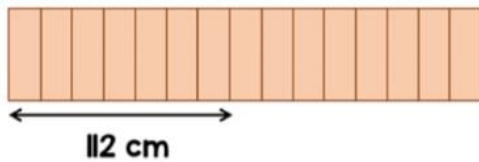
Five identical rectangles are put together to make a large rectangle.

The width of one rectangle is 4 cm. Work out the perimeter of the large rectangle.



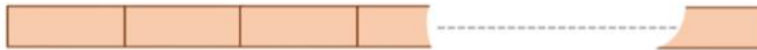
## Challenge 5

15 identical blocks are lined up as shown.



The length of each individual block is twice the width.

If all 15 blocks are then laid end to end lengthways, what is the total length of the blocks altogether now?



## Challenge 6

Liam has these 3 shapes:



He uses them to make different towers. He measures the height of each tower he makes. Liam stacks all three shapes to make one tower. How tall is the tower?

